

Invention Title: Multi-Axes Tool Compensation -- 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

Inventor: Gary John Corey

Application No. 10/079,309

Inventor's Phone No.: (909) 674-8100

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CNC Machine Tool Parameters Ver 1.2

Tool Parameters								Tool Definitions (Solid Mode Only)				
Size	Hori	Vert	Height	Wear	Custom1	Custom2		Corner Radius	Bevel angle	Side angle	Length	Type
1	0.25	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	3.0	0
2	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
3	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
4	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
5	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
6	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
7	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
8	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
9	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
10	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0

Machine Offsets								Optional Settings	
X	Y	Z	A	B	C	D	E	<input type="checkbox"/> Dry Run (Disable Z Spindle Feed Mode)	<input type="checkbox"/> Bitmap G Code Display (Speed Penetration)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<input checked="" type="checkbox"/> Graphics: Solid w/ Wire Frame	<input type="checkbox"/> Tolerance (inch and inch/mm)
								<input type="checkbox"/> Block Skip Character	
								<input checked="" type="checkbox"/> Teach X Teach File Name (No Path)	
								<input type="checkbox"/> Verify Auto Cancel	<input type="checkbox"/> Solid Stock
								<input checked="" type="radio"/> Absolute (0)	Begin Z @ 0.0
								<input type="radio"/> Incremental (1)	
								<input type="radio"/> Bit Radius (2)	Wire Stock 1.0

F5 Tool Definitions		F6 Tool List		F7 Tool Photos		F8 Convert to Metric		F9 Convert to Inch	

FIG 1.

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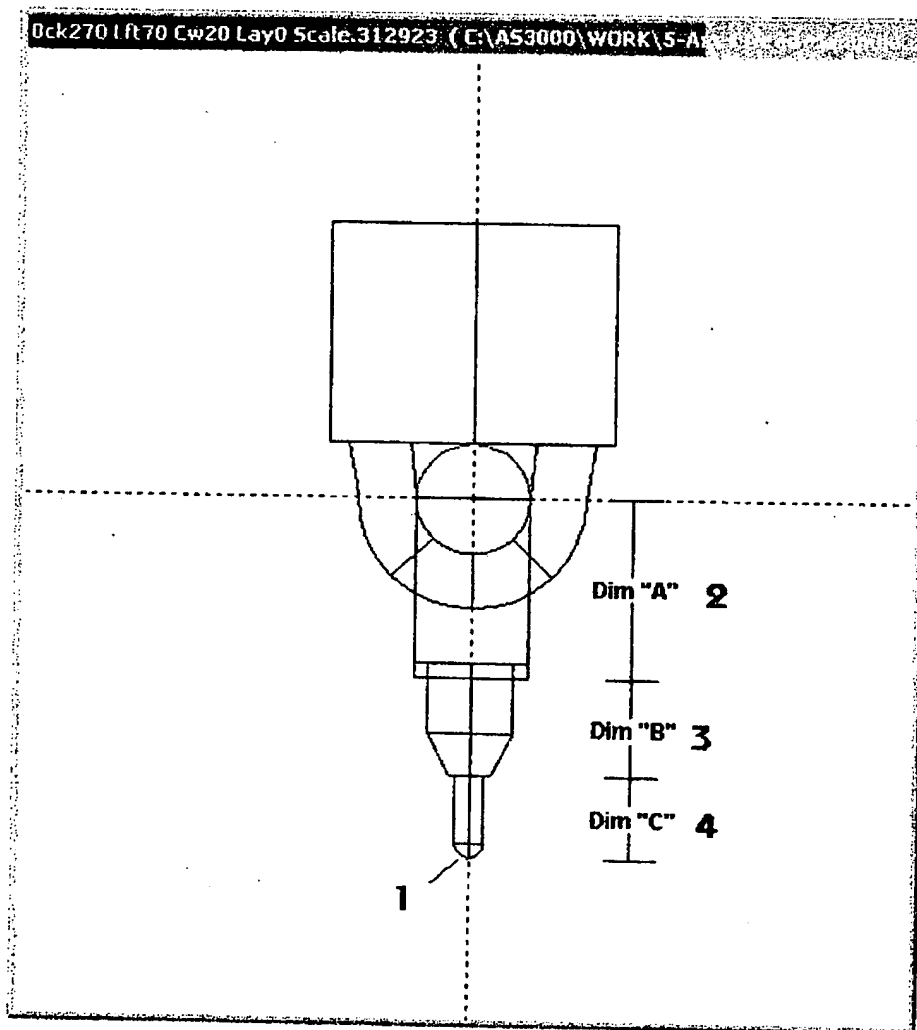


FIG 2.

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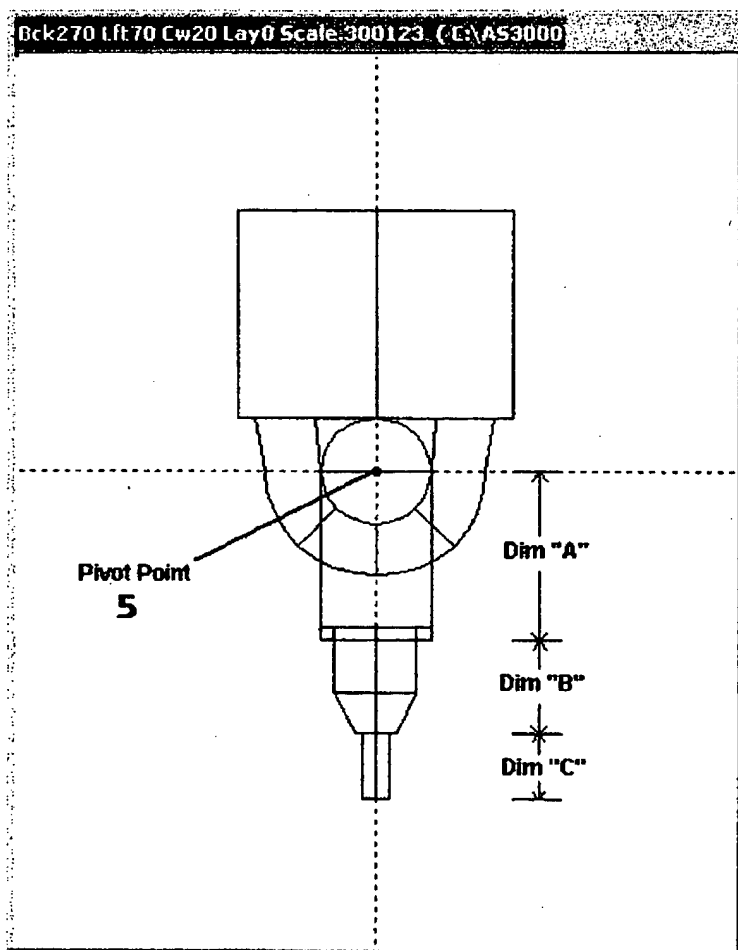


FIG 3.

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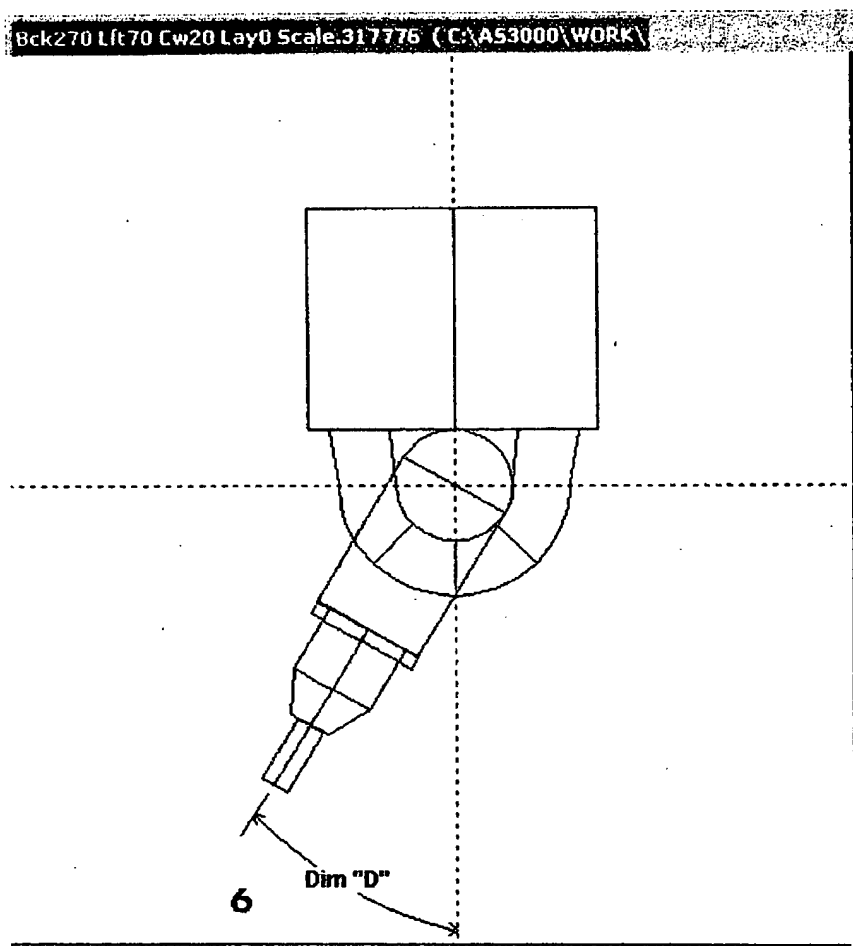


FIG 4.

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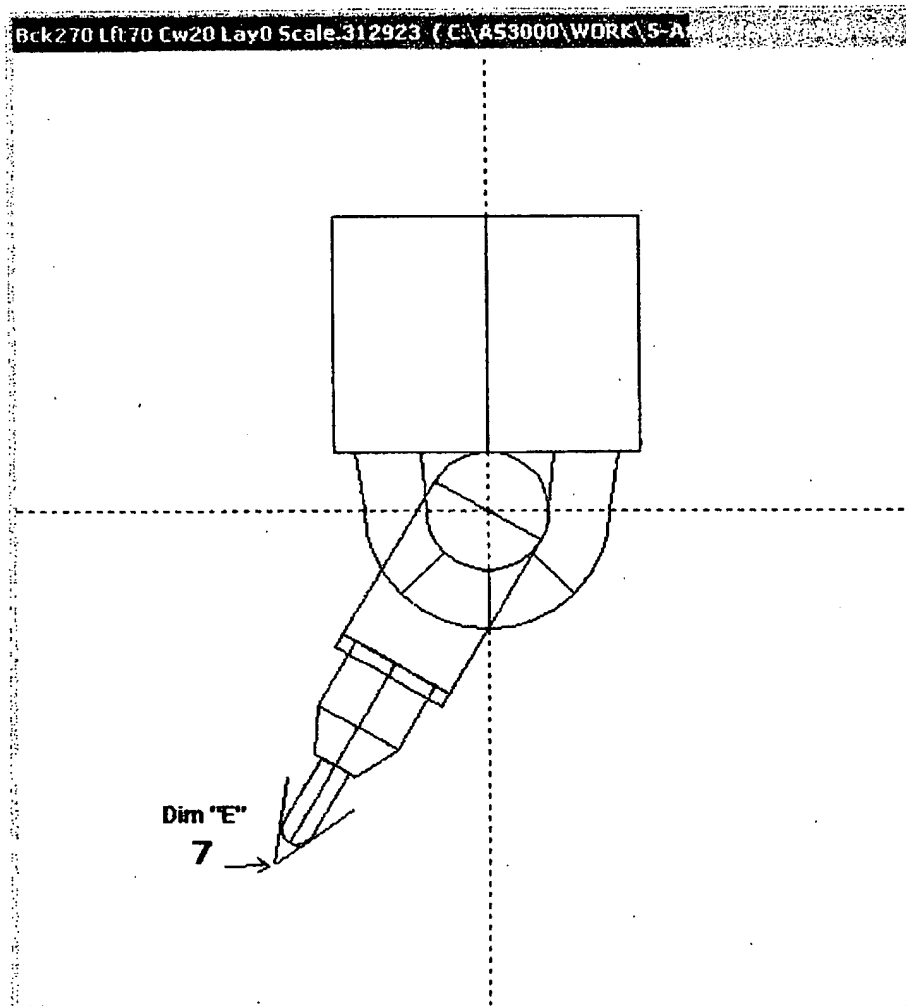


FIG 5.

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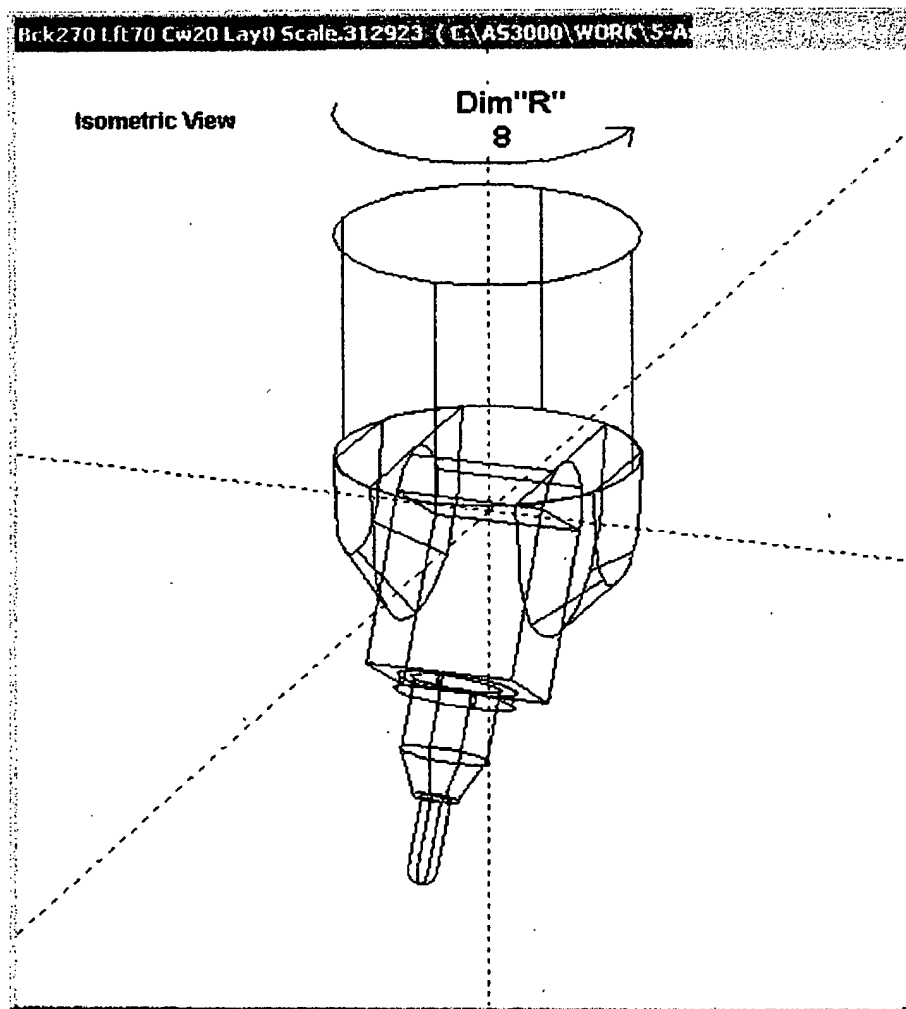


FIG 6.

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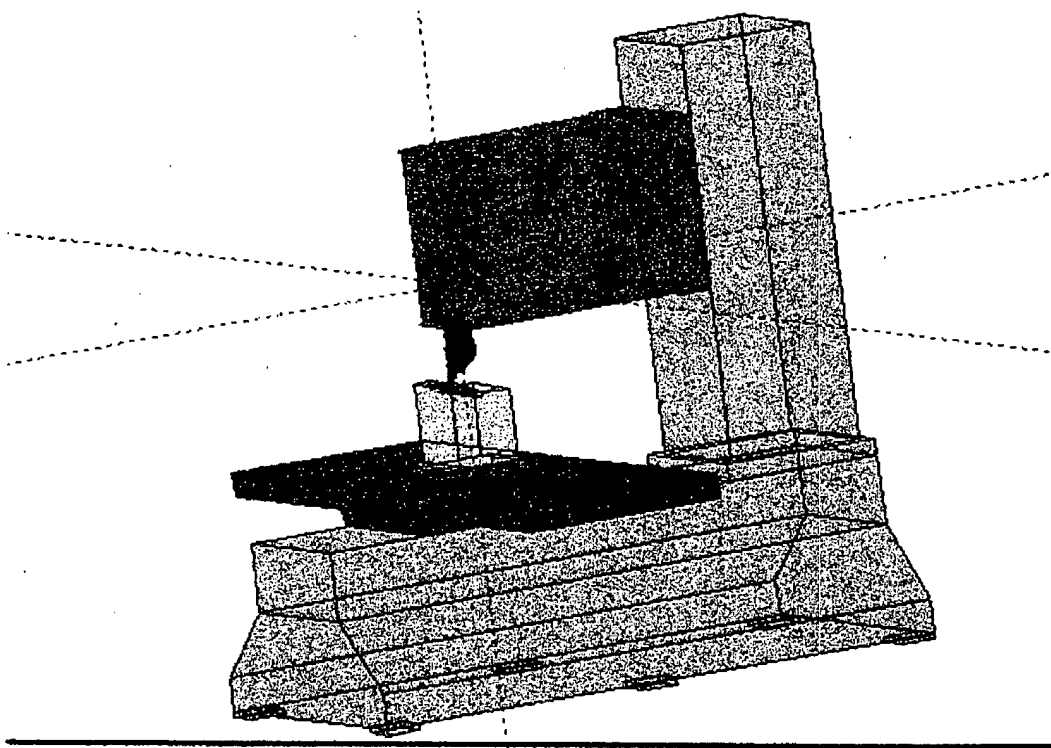


FIG 7.

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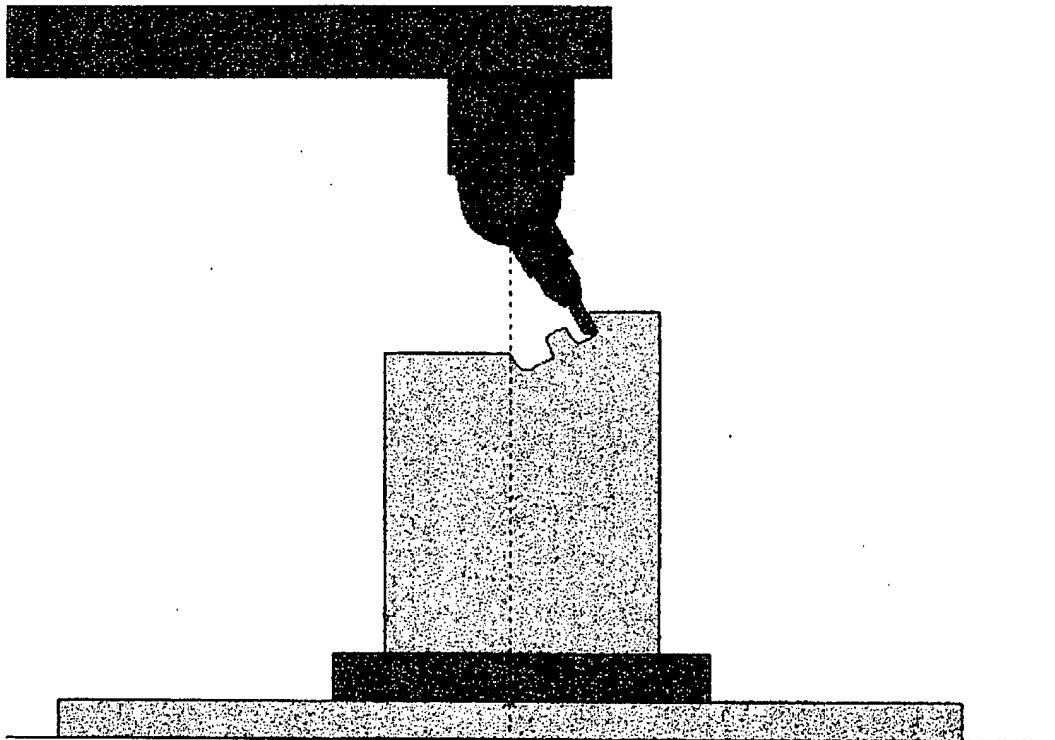


FIG 8.



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%  
N10 T01 M6  
N20 G90 S200 M3  
N30 G0 A270. B0  
N40 X0 Y-21. Z0 M8  
N50 Z20.5  
N60 G1 Y-10.933 Z17.9365 A270. B-30. F10.  
N70 Y-3.2465 Z10.75 A270. B-60.  
N80 Y0 Z.5 A270. B-90.  
N90 Y-3.2465 Z10.75 A90. B-60.  
N100 Y-10.933 Z17.9365 A90. B-30.  
N110 Y-21. Z20.5 A90. B0  
N120 G1 Z0  
N130 G0 A0 B0  
N140 X0 Y-21. Z0 S200 F10.  
N150 G1 Z20.5  
N160 G1 Y-10.9332 Z17.9367 A0 B-29.9993 F10.  
N170 Y-3.2463 Z10.7498 A0 B-60.0007  
N180 Y0 Z.5 A0 B-90.  
N190 Y-3.2465 Z10.75 A180. B-60.  
N200 Y-10.933 Z17.9365 A180. B-30.  
N210 Y-21. Z20.5 A180. B0  
N220 Z0  
N230 G0 A0 B0  
N240 M30  
%

**FIG 9.**